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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/177,902	10/23/1998	DAVID A. HOLMAN	E-1658	3711

7590 12/08/2003

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EXAMINER	
CINTINS, IVARS C	
ART UNIT	**PAPER NUMBER**
1724	

DATE MAILED: 12/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/177,902	HOLMAN ET AL.	
	Examiner	Art Unit	
	Ivars C. Cintins	1724	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 September 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-17 are again rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art in view of Johncox et al. (U.S. Patent No. 4,750,707). As pointed out in previous Office actions, Applicant has admitted that column based separations employing a valve member comprising a moveable solid rod are known in the art. Such prior art separation techniques are depicted in Figs. 4a and 4b. Claims 1-17 differ from these admittedly known separation techniques by the use of a valve member having a rotating rod with a "binary" end. Johncox et al. discloses controlling fluid with a valve of the type recited. It would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the rotating valve of Johncox et al. for the equivalent solid rod valve of the admittedly known system, since this reference rotating valve is capable of controlling material flow through a column chamber in substantially the same manner as the solid rod valve of the admittedly known system, to produce substantially the same results. Applicant should note that one of ordinary skill in the fluid treatment art would appropriately size the valve member of the thus modified admittedly known system such that it blocks the flow of matrix material to the outlet in a first position, permits the flow of matrix material to the outlet in a second position, and allows fluid flow to the outlet in all positions, since the admittedly known system depicted in Figs. 4a and 4b clearly requires such a function (see page 7, lines 16-18 of the specification).

Applicant's arguments filed September 4, 2003 have been noted and carefully considered but are not deemed to be persuasive of patentability. Applicant has presented a second affidavit by Mr. Brian Dockendorff, and states that this second affidavit provides comparative data to show that the claimed rotating rod system is superior to the solid rod system of the prior art. This second affidavit by Mr. Dockendorff has also been carefully considered, but is also not deemed to be persuasive of patentability. This second affidavit states that prior solid rod valve based system fail because there is an inherent conflict in the design of solid rods. Since tight tolerances are required, powerful solenoids and springs have been used to drive the rod in and out of the block, which powerful solenoids and springs create wear on the block, resulting in leakage; and if less powerful solenoids and springs are employed, then the rods have a tendency to get stuck in an open or closed position. This second affidavit then states that the rotating rod system of the invention overcomes these problems. It is noted, however, that Applicant has failed to identify any specifics for the systems compared; and therefore, it is not readily apparent that a fair comparison has been made between these two systems. For example, is the tolerance of the rod in the block in each system the same? A "looser" tolerance in the rotating system could account for a greater service life in this system. Also, has the rotating rod system been in operation as long as the solid rod system, and have both systems been used to treat an equal volume of fluid? A system that has been in operation for a longer period of time, or used to treat a greater amount of fluid, would appear to be more prone to failure than a system that is less used. Furthermore, what matrix materials have been used in each of these systems? A relatively hard matrix material, such as ceramic or metal, could cause system failure more easily than a relatively soft matrix material, such as a polymeric resin. Unless the specific structural

components and operating conditions of each system are known, it is impossible to determine if the rotating rod system described in the second Dockendorff affidavit (page 3, paragraph 4) is more reliable than the solid rod system described in this affidavit (page 3, paragraphs 2 & 3) solely because of its rotating rod construction.

Egorov et al. (U.S. Patent No. 6,136,197) shows a similar method for packing and unpacking a column chamber.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to I. Cintins whose telephone number is (703) 308-3840. The examiner can normally be reached on Monday through Friday from 8:30 AM to 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Blaine Copenheaver, can be reached at (703) 308-1261.

The centralized facsimile number for the USPTO is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0661.

Ivars C. Cintins
Primary Examiner
Art Unit 1724

I. Cintins
December 3, 2003